IN THE CLAIMS:

Please cancel claims 1, 6, 9, and 14, amend claims 2, 4-5, 10, 12-13, and add new claims 15-20 as follows:

1. (Cancelled)

2. (Currently Amended) A head slider having an air inlet end and an air outlet end, comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between the transducer and a rearmost portion of the head slider,~~according to claim 1,~~

wherein said cavity is approximated by a curved surface that is represented by:

$z = f(x) \cdot g(y)$

where z represents the depth of the cavity, x the position thereof in the longitudinal direction of the head slider, y the position thereof in the transverse direction of

the head slider, $f(x) = a_m x^m + a_{m-1} x^{m-1} + \cdots + a_1 x + a_0$, $g(y) = b_n y^n + b_{n-1} y^{n-1} + \cdots + b_1 y + b_0$, and m and n are an integer of 2 or greater.

3. (Original) A head slider according to claim 2, wherein said cavity is approximated by a curved surface which is represented by an equation which is similar to said equation except that at least one of f(x) and g(y) is replaced with a sine function.

4. (Currently Amended) A head slider ~~according to claim 1,~~ having an air inlet end and an air outlet end, comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between the transducer and a rearmost portion of the head slider,

wherein an amount of material of the head slider that would completely fill said cavity corresponds to a portion of the head slider which would project from the disk-facing surface if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer.

5. (Currently Amended) A head slider ~~according to claim 1,~~ having an air inlet end and an air outlet end, comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between the transducer and a rearmost portion of the head slider,

wherein an amount of material of the head slider that would completely fill said cavity is corresponds to a portion of the head slider which would float less than said electromagnetic transducer if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer while said head slider is normally floating.

6. (Cancelled)

7. (Withdrawn) A method of manufacturing a head slider having an electromagnetic transducer near an air outlet end, comprising the steps of:

applying a predetermined voltage to said electromagnetic transducer; and

polishing off a portion of the head slider which projects from a disk-facing surface when a predetermined voltage is applied to said electromagnetic transducer.

8. (Withdrawn) A method of manufacturing a head slider having an electromagnetic transducer near an air outlet end, comprising the steps of:

rotating a polishing member at a predetermined rotational speed;

causing the head slider to flow with an airflow which is generated when the polishing member is rotated;

applying a predetermined voltage to said electromagnetic transducer; and

polishing off a portion of the head slider which projects from a disk-facing surface and a portion of the head slider which floats less than said electromagnetic transducer when said predetermined voltage is applied to said electromagnetic transducer.

9. (Cancelled)

10. (Currently Amended) A disk drive ~~according to claim 9,~~ comprising:

a housing;

an actuator arm rotatably mounted in said housing;

a suspension fixed at a base end portion thereof to a front end portion of said actuator arm;

a head slider mounted on a front end portion of said suspension, said head slider having an air inlet end and an air outlet end;

said head slider comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between said transducer and a rearmost portion of said head slider,

wherein said cavity is approximated by a curved surface that is represented by:

$z = f(x) \cdot g(y)$

where z represents the depth of the cavity, x the position thereof in the longitudinal direction of the head slider, y the position thereof in the transverse direction of the head slider, $f(x) = a_m x^m + a_{m-1} x^{m-1} + \cdots + a_1 x + a_0$, $g(y) = b_n y^n + b_{n-1} y^{n-1} + \cdots + b_1 y + b_0$, and m and n are an integer of 2 or greater.

11. (Previously Presented) A disk drive according to claim 10, wherein said cavity is approximated by a curved surface which is represented by an equation which is similar to said equation except that at least one of f(x) and g(y) is replaced with a sine function.

12. (Currently Amended) A disk drive ~~according to claim 9,~~ comprising:

a housing;

an actuator arm rotatably mounted in said housing;

a suspension fixed at a base end portion thereof to a front end portion of said actuator arm;

a head slider mounted on a front end portion of said suspension, said head slider having an air inlet end and an air outlet end;

said head slider comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between said transducer and a rearmost portion of said head slider,

wherein an amount of material of said head slider that would completely fill said cavity corresponds to a portion of the head slider which would project from the disk-facing surface if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer.

13. (Currently Amended) A disk drive ~~according to claim 9,~~ comprising:

a housing;

an actuator arm rotatably mounted in said housing;

a suspension fixed at a base end portion thereof to a front end portion of said actuator arm;

a head slider mounted on a front end portion of said suspension, said head slider having an air inlet end and an air outlet end;

said head slider comprising:

a rail having a flat air bearing surface for generating a floating force when the disk rotates, said rail being disposed on a disk-facing surface; and

an electromagnetic transducer disposed near said air outlet end where said rail is positioned;

said head slider having a cavity on the air outlet end near said electromagnetic transducer between said transducer and a rearmost portion of said head slider,

wherein an amount of material of said head slider that would completely fill said cavity corresponds to a portion of the head slider which would float less than said electromagnetic transducer if said cavity were not present when a predetermined voltage is applied to said electromagnetic transducer while said head slider is normally floating.

14. (Cancelled)

15. (New) A head slider according to claim 2, wherein said rail includes a front rail disposed on the disk-facing surface adjacent to the air inlet end, and a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end,

said head slider further comprising:

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails.

16. (New) A head slider according to claim 4, wherein said rail includes a front rail disposed on the disk-facing surface adjacent to the air inlet end, and a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end,

said head slider further comprising:

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails.

17. (New) A head slider according to claim 5, wherein said rail includes a front rail disposed on the disk-facing surface adjacent to the air inlet end, and a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end,

said head slider further comprising:

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails.

18. (New) A disk drive according to claim 10, wherein said rail includes a front rail disposed on the disk-facing surface adjacent to the air inlet end, and a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end,

said head slider further comprising:

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails.

19. (New) A disk drive according to claim 12, wherein said rail includes a front rail disposed on the disk-facing surface adjacent to the air inlet end, and a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end,

said head slider further comprising:

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails.

20. (New) A disk drive according to claim 13, wherein said rail includes a front rail disposed on the disk-facing surface adjacent to the air inlet end, and a pair of rear rails disposed on the disk-facing surface adjacent to the air outlet end,

said head slider further comprising:

a groove defined downstream of said front rail for expanding air once compressed by said front rail to develop a negative pressure; and

a plurality of pads disposed on said front rail and at least one of said pair of rear rails.